

SEQUENCE LISTING

(1) GENERAL INFORMATION:

(i) APPLICANTS: William M. Pardridge
Ruben J. Boado

(ii) TITLE OF INVENTION: Delivery Of Genes Encoding Short Hairpin
RNA Using Receptor-Specific Nanocontainers

(iii) NUMBER OF SEQUENCES: 20

(iv) CORRESPONDENCE ADDRESS:

(A) ADDRESSEE: Shapiro & Dupont LLP
(B) STREET: 233 Wilshire Boulevard, Suite 700
(C) CITY: Santa Monica
(D) STATE: CA
(E) COUNTRY: USA
(F) ZIP: 90067

(v) COMPUTER READABLE FORM:

(A) MEDIUM TYPE: Floppy Disk
(B) COMPUTER: IBM PC compatible
(C) OPERATING SYSTEM: Windows 2000
(D) SOFTWARE: MS Word

(viii) ATTORNEY/AGENT INFORMATION

(A) NAME: Oldenkamp, David J.
(B) REGISTRATION NUMBER: 29,421
(C) REFERENCE/DOCKET NUMBER: 0180.0063

(ix) TELECOMMUNICATIONS INFORMATION:

(A) TELEPHONE: (310) 319-5411
(B) TELEFAX: (310) 319-5401

(2) INFORMATION FOR SEQ ID NO: 1:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 29 nucleotides
(B) TYPE: nucleotide
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: nucleic acid

(ix) SEQUENCE DESCRIPTION: SEQ ID NO: 1

CCUCACCUCC ACCGUGCAAC UCAUCACGC

29

(2) INFORMATION FOR SEQ ID NO: 2:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 74 nucleotides
(B) TYPE: nucleotide

(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: nucleic acid

(ix) SEQUENCE DESCRIPTION: SEQ ID NO: 2

GCGUGAUGAG UUGCACGGUG GAGGUGAGGG AAGCUUGCUU CGCCUCCACC GUGCAAUUCA
UCGCGCAGUU UUUU

60
74

(2) INFORMATION FOR SEQ ID NO: 3:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 74 nucleotides
(B) TYPE: nucleotide
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: nucleic acid

(ix) SEQUENCE DESCRIPTION: SEQ ID NO: 3

GCTGCCCCGG CCGTCCCGGA GGGTCGCATG AAGCTTGATG CGACTCTTCG GGACGGTCGG
GGTAGCGCTT TTTT

60
74

(2) INFORMATION FOR SEQ ID NO: 4:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 82 nucleotides
(B) TYPE: nucleotide
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: nucleic acid

(ix) SEQUENCE DESCRIPTION: SEQ ID NO: 4

AATTAAAAAA GCGCTACCCC GACCGTCCCG AAGAGTCGCA TCAAGCTTCA TGCGACCCTC
CGGGACGGCC GGGGCAGCGG CC

60
82

(2) INFORMATION FOR SEQ ID NO: 5:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 74 nucleotides
(B) TYPE: nucleotide
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: nucleic acid

(ix) SEQUENCE DESCRIPTION: SEQ ID NO: 5

GATCTTAGGC CCATTCGTTG GACAGCCTTG AAGCTTGAGG GTTGTCCGAC GAATGGGCCT
AAGATTCCTT TTTT

60
74

(2) INFORMATION FOR SEQ ID NO: 6:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 82 nucleotides
 - (B) TYPE: nucleotide
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: nucleic acid

(ix) SEQUENCE DESCRIPTION: SEQ ID NO: 6

<u>AATTA</u> AAAAAA GGAATCTTAG GCCCATTCGT CGGACAACCC TCAAGCTTCA AGGCTGTCCA	60
ACGAATGGGC CTAAGATCGG <u>CC</u>	82

(2) INFORMATION FOR SEQ ID NO: 7:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 74 nucleotides
 - (B) TYPE: nucleotide
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: nucleic acid

(ix) SEQUENCE DESCRIPTION: SEQ ID NO: 7

GTCCTGCTGG TAGTCAGGGT TGTCCAGGCG AAGCTTGCTC TGGATAATCC TGACTATCAG	60
CAGGACTTTT TTTT	74

(2) INFORMATION FOR SEQ ID NO: 8:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 82 nucleotides
 - (B) TYPE: nucleotide
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: nucleic acid

(ix) SEQUENCE DESCRIPTION: SEQ ID NO: 8

<u>AATTA</u> AAAAAA AAGTCCTGCT GATAGTCAGG ATTATCCAGA CCAAGCTTCG CCTGGACAAC	60
CCTGACTACC AGCAGGACGG <u>CC</u>	82

(2) INFORMATION FOR SEQ ID NO: 9:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 74 nucleotides
 - (B) TYPE: nucleotide
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: nucleic acid

(ix) SEQUENCE DESCRIPTION: SEQ ID NO: 9

GTCCCTTATA CACCGTGCCG AACGCACCGG AAGCTTGCGG TCGGTTCCGC GCGGTGTGTG 60
AGGGATTCTT TTTT 74

(2) INFORMATION FOR SEQ ID NO: 10:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 82 nucleotides
- (B) TYPE: nucleotide
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: nucleic acid

(ix) SEQUENCE DESCRIPTION: SEQ ID NO: 10

AATTAAAAAA GAATCCCTCA CACACCGCGC CGAACGCACC GCAAGCTTCC GGTGCGTTCG 60
GCACGGTGTA TAAGGGACCG CC 82

(2) INFORMATION FOR SEQ ID NO: 11:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 74 nucleotides
- (B) TYPE: nucleotide
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: nucleic acid

(ix) SEQUENCE DESCRIPTION: SEQ ID NO: 11

GCGTGATGAG TTGCACGGTG GAGGTGAGGG AAGCTTGCTT CGCCTCCACC GTGCAATTCA 60
TCGCGCAGTT TTTT 74

(2) INFORMATION FOR SEQ ID NO: 12:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 82 nucleotides
- (B) TYPE: nucleotide
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: nucleic acid

(ix) SEQUENCE DESCRIPTION: SEQ ID NO: 12

AATTAAAAAA CTGCGCGATG AATTGCACGG TGGAGGCGAA GCAAGCTTCC CTCACCTCCA 60
CCGTGCAACT CATCACGCGG CC 82

(2) INFORMATION FOR SEQ ID NO: 13:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 74 nucleotides
(B) TYPE: nucleotide
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: nucleic acid

(ix) SEQUENCE DESCRIPTION: SEQ ID NO: 13

GGATGGAGGA GATCTCGCTG GCAGGGATTG AAGCTTGAGT CTCTGCCGGC GAGATCTCCT 60
CCGTCCTGTT TTTT 74

(2) INFORMATION FOR SEQ ID NO: 14:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 82 nucleotides
(B) TYPE: nucleotide
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: nucleic acid

(ix) SEQUENCE DESCRIPTION: SEQ ID NO: 14

AATTAAAAAA CAGGACGGAG GAGATCTCGC CGGCAGAGAC TCAAGCTTCA ATCCCTGCCA 60
GCGAGATCTC CTCCATCCGG CC 82

(2) INFORMATION FOR SEQ ID NO: 15:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 72 nucleotides
(B) TYPE: nucleotide
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: nucleic acid

(ix) SEQUENCE DESCRIPTION: SEQ ID NO: 15

TCACCACATA ATTACCTTTC TTTTCCTCGA AGCTTGGAGG GAAAGGAAGG TAGTTGTGTG 60
GTGATCTTTT TT 72

(2) INFORMATION FOR SEQ ID NO: 16:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 80 nucleotides
(B) TYPE: nucleotide
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: nucleic acid

(ix) SEQUENCE DESCRIPTION: SEQ ID NO: 16

AATTAAAAAA GATCACCACA CAACTACCTT CCTTTCCTC CAAGCTTCGA GGAAAAGAAA 60
GGTAATTATG TGGTGAGGCC 80

(2) INFORMATION FOR SEQ ID NO: 17:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 72 nucleotides
(B) TYPE: nucleotide
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: nucleic acid

(ix) SEQUENCE DESCRIPTION: SEQ ID NO: 17

TGTCACCACA TAATTACCTT TCTTTTCCGA AGCTTGGGGA AAGGAAGGTA GTTGTGTGGT 60
GACATCTTTT TT 72

(2) INFORMATION FOR SEQ ID NO: 18:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 80 nucleotides
(B) TYPE: nucleotide
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: nucleic acid

(ix) SEQUENCE DESCRIPTION: SEQ ID NO: 18

AATTAAAAAA GATGTCACCA CAACTACC TTCCTTTCCC CAAGCTTCGG AAAAGAAAGG 60
TAATTATGTG GTGACAGGCC 80

(2) INFORMATION FOR SEQ ID NO: 19:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 72 nucleotides
(B) TYPE: nucleotide
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: nucleic acid

(ix) SEQUENCE DESCRIPTION: SEQ ID NO: 19

CTGTCACCAC ATAATTACCT TTCTTTTCGA AGCTTGGGAA AGGAAGGTAG TTGTGTGGTG 60
ACAGTCTTTT TT 72

(2) INFORMATION FOR SEQ ID NO: 20:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 80 nucleotides
 (B) TYPE: nucleotide
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: nucleic acid

(ix) SEQUENCE DESCRIPTION: SEQ ID NO: 20

<u>AATTAAAAAA</u> GACTGTCACC ACACAACCTAC CTCCTTTCC CAAGCTTCGA AAAGAAAGGT	60
AATTATGTGG TGACAGGGCC	80